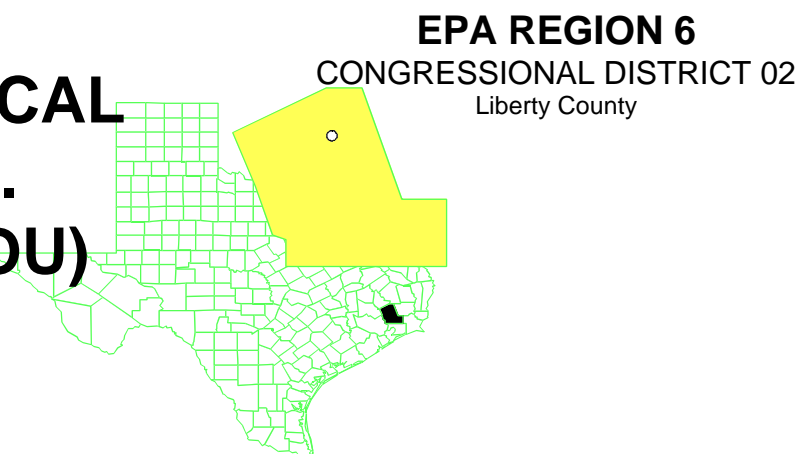


PETRO-CHEMICAL SYSTEMS, INC. (TURTLE BAYOU) TEXAS

EPA ID# TXD980873350



Site Description

Location: ! The site is located on Frontier Park Road, south of Liberty (east of Highway 563; 7 miles north of I-10), Liberty County, Texas.

! Frontier Park Road transverses the site.

Population: A small business and 21 residences are within a one-mile radius of Highway 563 and Frontier Park Road.

Setting: ! The nearest residence and drinking water well are on-site.
! Of the 500+acre tract, 5 disposal areas have been identified.
! Contaminated waste oils were used as dust control along Frontier Park Road.
! Areas identified on the site include the main waste area, temporary storage area, power line easement area, bayou disposal area, and under a secondary containment system at the west end of the site.

Hydrology: ! The site is characterized by recent alluvial deposits which overlie older deposits.

! The water table is at 20 to 25 feet below the surface of the site.

! The east end of the site falls within the 100-year flood plain, also a tributary.

Wastes and Volumes

! The principal pollutants at the site, by areas of concern, are:

Road:	o Naphthalene	1100 ppm soil composite
	o Chrysene	8 ppm
	o Fluorene	200 ppm
	o Benzene	2000 ppm

Surface Soil:	o Benzene	Up to 7,000 ppm
	o Naphthalene	Up to 6,700 ppm
	o Lead	Up to 5,000 ppm

Groundwater:	o Naphthalene	13,000 ppm
	o Styrene	660 ppm

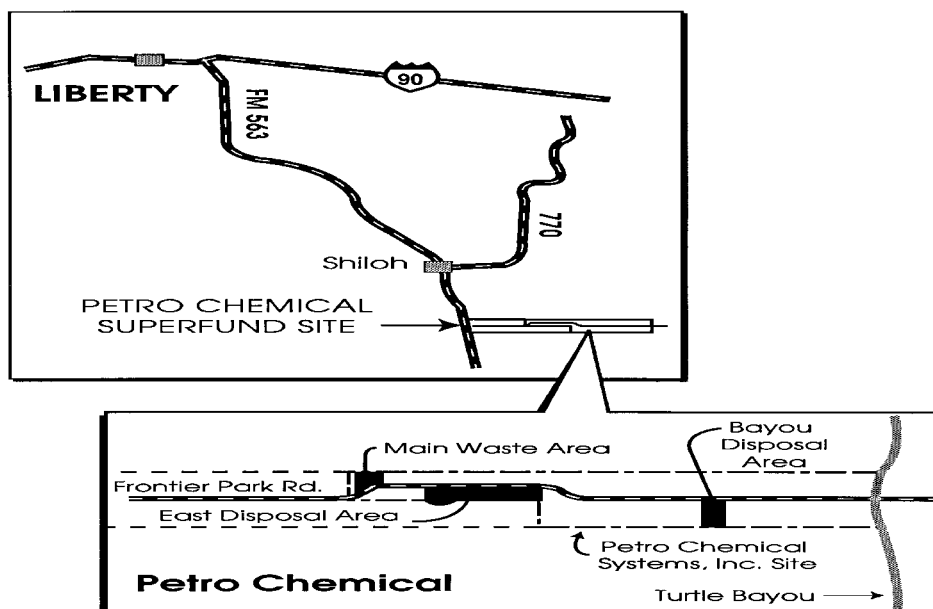
! Waste volumes at the site include approximately 5,900 cubic yards in the yards in the remainder of the site.

Site Assessment and Ranking

NPL LISTING HISTORY
 Site HRS Score: 29.94
 Proposed Date: 10/15/84
 Final Date: 5/20/86
 NPL Update: No. 2

Site Map and Diagram

The Remediation Processes



Site History:

! Site operations commenced prior to 1970, and continued until the late 1970s on Frontier Park Road and into unlined waste pits along road.

! A conditional commercial permit was issued 1971, but was revoked due to 1974.

! After 1974, the land was developed and subdivided into residential property.

! In 1986, EPA installed a fence and conducted site sampling.

! In 1988, Frontier Park Road was excavated, back-filled, and re-built; residential development resumed during this period.

! The Remedial Investigations and Feasibility Studies (RI/FS) for both Frontal Source Control phases (or operable units), were initiated in April 1988.

! The Texas Natural Resource Conservation Commission (TNRCC) is the lead FPR phase, while EPA has the lead on the Source Control.
! During the course of the original RI/FS, a supplemental RI/FS was conducted. Administrative Order on Consent signed 3/6/91.
! After a failed attempt to negotiate a Consent Decree with site PRPs, a Unified Order (UAO) was issued to PRPs in December 1993. PRPs are currently implementing

Health Considerations:

! Ground water contamination has been detected.

! The Agency for Toxic Substances and Disease Registry (ATSDR) has indicated that a health threat is posed.

! All areas of apparent waste disposal have been identified.

Other Environmental Risks:

! Numerous shallow wells, approximately 25 ft. deep, are the current source of contamination in the rural area.

! However, all wells currently used on the site are screened in the deeper aquifer at approximately 100 feet.

Record of Decision

Signed: March 27, 1987 (FPR)
Signed: September 6, 1991 (Source)

Frontier Park Road (FPR):

! The Record of Decision (ROD) for Frontier Park Road called for excavation of the vault and road followed by placement of the contaminated soil within a temporary or permanent relocation of residents.

! This remedy includes mowing of the vault and road area, visual inspection, and

Source Control (Soil Treatment):

! The Source Control ROD selected soil vapor extraction and catalytic oxidizers to treat the soil contamination, and includes cap and slurry walls around waste disposal area

Other Remedies Considered		Reason Not Chosen
-----F P R-----		
1.	"No Action"	Road needs action, too great a threat
2.	Onsite storage with temporary detours	More costly than relocation
3.	Off-site disposal with relocation of residents	Not cost-effective; transportation risks
4.	Off-site disposal with temporary detours	Not cost-effective; transportation risks
5.	Alternative access, Fence contaminated areas	Does not eliminate threat from road
6.	Removal to background level with temporary detours	Not cost-effective
7.	Surface barrier, temporary detours	Does not alleviate threat from road

-----Source Control-----

1.	"No Action"	Not protective of human health and the environment
2.	Cap and Slurry Wall	Part of selected remedy
3.	Biological treatment	Short Term Impacts
4.	Solvent extraction	Short Term Impacts
5.	Thermal destruction	Not cost-effective
6.	Thermal stripping	Short Term Impacts
7.	On-site landfill disposal	Short Term Impacts
8.	Offsite landfill disposal	Short Term Impacts
9.	Soil vapor extraction and catalytic oxidation	Part of selected remedy
10.	Ground water extraction (wells) carbon adsorption or direct disposal	May be used, based on pilot study results
11.	Ground water extraction by trenches; carbon adsorption or direct disposal.	May be used, based on pilot study results
12.	Combination of treatment technologies to address various areas of site.	May be used, based on pilot study results

! An Inter-agency agreement was signed with FEMA to relocate residents d

Community Involvement

! Community Involvement Plan: Developed 8/85, revised 11/89
! Open houses and workshops: 12/84, 11/85, 3/89, 4/91, 6/91, 2/96
! Proposed Plan Fact Sheet and Public Meeting: 11/86 (FPR), 6/91 (Source)
! ROD Fact Sheet: 3/87 (FPR), 9/91 (Source)
! Milestone Fact Sheets: 10/86, 7/87, 12/87, 7/88, 1/89, 11/90 (TWC), 05/91, 0

! Citizens on site mailing list: 80

! Constituency Interest: Site-area residents are concerned about site contamination and maintenance of Frontier Park Road.

! Site Repository: Liberty Municipal Library, 1710 Sam Houston Avenue, Liberty, MO

Technical Assistance Grant

! Letters of Intent Received: None
! Grant Award: N/A
! Current Status: No apparent citizen interest in applying for the grant.

Fiscal and Program Management

! Remedial Project Manager: Chris Villarreal
! State Contact: (TNRCC) Alvie Nichols, 512/239-2439, Mail Code 144
! Community Involvement Coordinator: Donn Walters
! Attorney: Anne Foster
! State Coordinator: Shirley Workman
! Prime Contractor: Lockwood, Andrews & Newmann (Source RI/FS, FPR O&M)
CH2M HILL (Road RD/RA)
Fluor Daniel (Source - RD Technical Assistance)

Cost Recovery: Combination of State-lead (Fund) for FPR, and PRP-lead (Fund) for Source Control operable unit.

! PRPs Identified: 8
! Viable PRP: ARCO, ARCO Chemical, DuPont, Exxon, Lubrizol, Tenneco
! EPA and ARCO (Atlantic Richfield) signed an Administrative Order on Consent for Supplemental Remedial Investigation and Focused Feasibility Study.
! In November 1994, a \$106/107 cost recovery action was taken to court by EPA. An out-of-court settlement with ARCO was reached whereby ARCO will pay and perform approximately \$15.5 million of the estimated total \$27 million. In addition, a former land owner (Donald Lang) agreed to pay \$250,000. The settlements are currently being negotiated in two separate Consent Decree negotiations. Upon completion of the Consent Decree negotiations, facts sheets will be generated during the Public Comment Period on the Consent Decree.

Present Status and Issues

! With the cleanup actions described above, the EPA has greatly reduced the contact or exposure to contaminated soil and dust along Frontier Park Road. A road cleanup plan is being designed.

! A remedial design field pilot study is currently underway at the site. Soil bioremediation technologies are being piloted. Pilot test results are available. A final report is being prepared. The reports documenting the pilot study activities will be under review.

! To the extent practicable, local goods and services are being used to for the project. On-site security personnel are from the local community.

Benefits

! Residents in 21 homes and business clientele in the site area are now safe from the inhalation of Frontier Park Road wastes.

! Remedial activities are cleaning the site to residential cleanup standards to protect those living on the site now or in the future.

! Ongoing remedial activities have provided several jobs to the local community.